REMARKS

Claims 1-12 currently are pending. Claims 11 and 12 have been withdrawn from consideration. Claims 1, 4 and 9 currently have been amended.

Claims 1-10 are rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The examiner stated that claims 1 and 9 appear to be missing the delta symbol before "6-desaturase." Applicants have checked the pending claims and claims 1 and 9 are not missing the delta symbol before "6-desaturase." The examiner may not have the correct set of claims. Please refer the applicants' previously preliminary amendment.

Claims 4 and 9 currently have been amended to recite the proper Markush claim language.

Claims 1 and 9 currently have been amended to recite "Δ6-desaturase activity" instead of "enzymatic activity."

The examiner stated that as written it is unclear whether the claims are drawn to derivatives of both SEQ ID NOs 1 and 2 or only 2. We think the claim clearly sets out that these are "derivatives of the nucleic acid sequence shown in SEQ ID NO: 1 which encode polypeptides with the amino acid sequences shown in SEQ ID NO: 2..."

Claims 1-10 are rejected under 35 USC § 112, first paragraph, as failing to comply with the written description requirement. The examiner believes that the

specification does not give sufficient description of the genus which has at least 50 percent homology to SEQ ID NO: 1 and 2.

To overcome this rejection, applicants amend restrict the claims to derivatives of SEQ ID NO: 1 and/or SEQ ID NO: 2 having at least 85% homology. Applicants believe that given the knowledge general available such as homology algorithms algorithm of Karlin and Altschul (Proc. Natl. Acad. Sci. USA 87:2264-2268, 1990), one of ordinary skill in the art should be able to derive 85% homologs.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11-0345. Please credit any excess fees to such deposit account.

Respectfully submitted,

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COMPLETE LISTING OF ALL CLAIMS IN THE APPLICATION

1. (currently amended) A process of preparing unsaturated fatty acids, which comprises introducing, into an organism, at least one isolated nucleic acid sequence encoding a polypeptide having Δ6-desaturase activity, selected from the group consisting of:

   a) a nucleic acid sequence having the sequence shown in SEQ ID NO: 1,

   b) nucleic acid sequences which, as a result of the degeneracy of the genetic code, are derived from the sequence shown in SEQ ID NO: 1,

   c) derivatives of the nucleic acid sequence shown in SEQ ID NO: 1 which encode polypeptides with the amino acid sequences shown in SEQ ID NO: 2 and have at least 85 ~~50~~% homology at the amino acid level without substantially reducing the enzymatic action of the polypeptides,

   and culturing this organism, where the cultured organism contains at least 1 mol% of unsaturated fatty acids based on the total fatty acid content in the organism.

2. (previously presented) The process as claimed in claim 1, wherein the nucleic acid sequence is derived from a plant or algae.

3. (previously presented) The process as claimed in claim 1, wherein the nucleic acid sequence is derived from Physcomitrella patens.

4. (currently amended) The process as claimed in claim 1, wherein the organism is an organism selected from the group consisting of bacterium, fungus, ciliate, algae,

cyanobacterium, animal ~~or~~ and plant.

5. (previously presented) The process as claimed in claim 1, wherein the organism is a plant or algae.

6. (previously presented) The process as claimed in claim 1, wherein the organism is an oil crop.

7. (previously presented) The process as claimed in claim 1, wherein the cultured organism contains at least 5% by weight of unsaturated fatty acids based on the total fatty acid content in the organism.

8. (previously presented) The process as claimed in claim 1, wherein the unsaturated fatty acids are isolated from the organism.

9. (currently amended) A transgenic organism selected from the group consisting of plants, fungi, ciliates, algae, bacteria, cyanobacteria ~~or~~ and animals comprising at least one isolated nucleic acid sequence encoding a polypeptide with Δ6-desaturase activity, selected from the group consisting of:

a) a nucleic acid sequence having the sequence shown in SEQ ID NO: 1,

b) nucleic acid sequences which, as a result of the degeneracy of the genetic code, are derived from the sequence shown in SEQ ID NO: 1,

c) derivatives of the nucleic acid sequence shown in SEQ ID NO: 1 which encode polypeptides with the amino acid sequences shown in SEQ ID NO: 2 and have at least 85 ~~50~~% homology at the amino acid level without substantially reducing the ~~enzymatic~~ Δ6 desaturase action of the

polypeptides.

10. (previously presented) A transgenic organism as claimed in claim 9, wherein the organism is a plant or algae.

11. (withdrawn) An oil, lipid or fatty acid or a fraction thereof, prepared by the process as claimed in claim 1.

12. (withdrawn) The use of the oil, lipid or fatty acid composition as claimed in claim 11 or of a transgenic organism in feed, foodstuffs, cosmetics or pharmaceuticals.